

DEPARTMENT OF THE INTERIOR, CANADA  
TOPOGRAPHICAL SURVEYS BRANCH

Bulletin No. 47

THE

# LAC LA BICHE DISTRICT

ALBERTA

*A Guide for Intending Settlers*



Ottawa  
F. A. ACLAND  
Printer to the King's Most Excellent Majesty  
1923

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COMPILED FROM INFORMATION OBTAINED  
ON LAND CLASSIFICATION SURVEYS BY  
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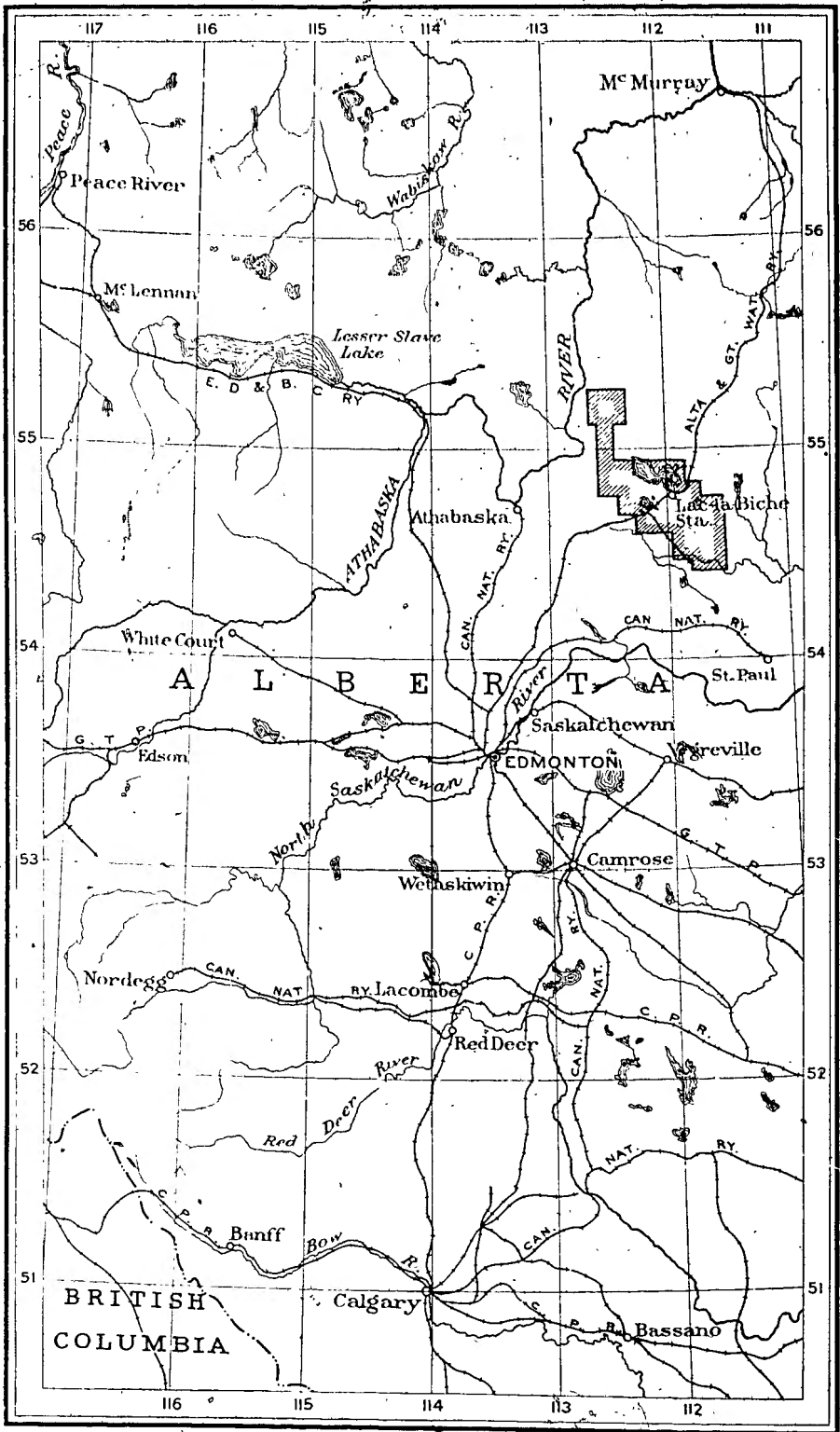
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# THE LAC LA BICHE DISTRICT, ALBERTA

## A GUIDE FOR INTENDING SETTLERS

### GENERAL DESCRIPTION OF AREA

In the settlement of the extensive areas of agricultural lands in Manitoba, Saskatchewan and Alberta, the open and semi-open plains in the southern parts received first attention. As the better areas of open lands were taken up, the forefront of settlement was gradually extended into the fertile wooded areas of the north. The Alberta and Great Waterways railway from Edmonton to McMurray has become one of the routes over which explorers, prospectors and home-seekers are entering undeveloped areas in the province of Alberta. This railway traverses a tract of agricultural land in the vicinity of lac la Biche, Alberta, a lake approximately twenty-five miles long and six miles wide. Situated on this railway on the southeast side of the lake about 115 miles northeast of Edmonton, is the village of Lac-la-Biche Station, with a population of about four hundred. In the village are situated several stores, hotels, boarding houses, a livery, post office, bank and a subagency of the Dominion Lands Office.

The village of Lac-la-Biche Station is connected by main wagon roads with Athabaska towards the west and St. Paul des Metis and Saddle Lake towards the southeast. In general the district is undulating, becoming somewhat hilly in the forest reserves towards the east and southwest. Forest fires, from time to time, have removed a large part of the virgin timber, leaving large areas of semi-open or lightly wooded poplar country. The forest cover, where untouched by recent fires consists of poplar with some spruce, birch, willows and jack pine. In many places there are stones and boulders.

Scattered throughout the area are many spruce and tamarack muskegs, varying in size from a few acres to several sections. The larger of these lie in township 68, range 17, and in township 68, ranges 11 and 12. A number of lakes are also found throughout the district, some of which occupy several sections.

The watershed between the Arctic Ocean and Hudson Bay drainage systems passes through the southern part of the district, the area to the north draining to lac la Biche and the Athabaska River drainage basin, that to the south draining to the Beaver river, a part of the Churchill River drainage basin. The highest elevation is about 2,300 feet, in the eastern part of range 11. An elevation of over 2,200 feet is reached in the northern part of Buck Lake forest reserve in township 66, range 17. Other elevations of prominent features in the district are as follows: lac la Biche, 1,784; Missawawi lake, 1,865; Caslan, 2,030; Hylo, 1,884; Venice, 1,873; Lac-la-Biche Station, 1,836; Square lake, 1,902.

An idea of what might be expected, by a man looking to this district as his future home, may be illustrated by the actual experience of a homesteader in the western part of the district. He was of Michigan-French origin and had been brought up in a hilly, wooded part of northern Michigan, where it

required continual hard work to make a living. Hearing of the attractions of northern Alberta and the opportunities for acquiring land under the homestead laws, he made his way to this district, where he arrived without capital but with a fair knowledge of farming. He built a small shack and made a beginning with a garden. He worked out for his neighbours whenever possible and lived off these earnings and his garden for the first summer. For the first three winters he left his place and worked in the mines around Edmonton or in the woods, each summer returning and improving his place. At the end of five years, he had about forty acres cleared, with a very comfortable house and out-buildings, and about twelve head of stock. His place is now wholly supporting him and his family. He considers he has already reached a position he could never have hoped to attain in his old home—a good sized farm of his own, stock, buildings, and a comfortable living. This is the usual story of the hardy, hard-working man who homesteads successfully in a bush country without capital. The only way to success lies in strict attention to business. A homesteader without capital, especially if married, must “work out” during the first few winters.

A much easier path lies before the prospective settler who has a little capital. He can clear and break enough land during the first year to make his place self-supporting in following years, providing of course, he settled on a suitable quarter-section. Farming operations, however, cannot be carried on extensively in these northern bush areas, unless a considerable amount of capital is expended before cash returns are looked for.

### ROADS

In the district around lac la Biche, settlement is yet in its early stages, and some localities are still greatly in need of suitable roads. Considerable progress has, however, been made during the past few years. New trails have been cut out and these when improved, will assist the settlers materially in their transportation problems.

There are three main roads out of Lac-la-Biche Station—the Athabaska trail to the west, the Edmonton or Saddle Lake trail to the south, and the Heart Lake trail to the northeast. Most of the settlement in the district is along these three roads; the remainder is tapped by local trails leading from them.

*Athabaska Trail.*—The Athabaska trail in general follows the southerly shore of lac la Biche and passes through the settlement around the Roman Catholic Mission in township 67, range 14, and the village of Plamondon in township 68, range 16. Considerable work has been done on this trail recently and it is now in good condition and fit for motor traffic. Culverts and ditches have been constructed and most of it is now graded. As settlement has reached a more advanced stage in the district surrounding Plamondon than in the other parts of the area, this district is better supplied with roads, many of which are graded. There is a good trail between Plamondon and the post office of Charron; also one between Plamondon and Berny and a fair one between Plamondon and Bouvier.

*Wandering River Trail.*—An unsurveyed district locally known as "Muskeg prairie," or "Wandering River prairie," is reached by a trail running northwest from Plamondon to a ford of the La Biche river in section 36 of township 68, range 17. The river at the ford is 210 feet wide and during the month of June is ordinarily from 5 to 6 feet deep. It has a good firm, sandy bottom, but at times the river is nearly choked with weeds. To within about two miles of the river, this trail is good, but to reach the ford it is necessary to cross a strip of low wet land. After crossing the river, the trail closely follows the right bank across township 69 and into township 70 to within a short distance of the prairie. The first eight or ten miles of the trail from the ford is poor, on account of many small creeks and ravines, but beyond this point it rapidly improves. This trail is very little travelled beyond the ford but could be quite easily put in very fair condition by building a number of small bridges and culverts and by doing a little ditching.

*East from Berny.*—During 1921 a new trail was being graded along the correction line east from Berny. When this trail is completed, a much shorter route will be provided for reaching Lac-la-Biche Station, as it has been necessary to go straight north six miles to the Athabaska trail at Plamondon and then all the way back along this trail to approximately the same latitude.

*Berny to Venice.*—Another new trail has recently been put through from Berny to Venice station south of Lac-la-Biche Station, on the Alberta and Great Waterways railway. This trail runs along the narrow ridge separating lake Missawawi from lake Kinosiu and provides a much shorter route to a market for the settlers in this district.

*Plamondon to Caslan.*—A trail south from Plamondon into the proposed Buck Lake forest reserve, along the east shore of Buck lake, and on to Caslan, a stop on the Alberta and Great Waterways railway, is seldom used. As this trail follows the ridges and high land it could easily be put in good condition, and will doubtless be travelled more extensively when the district surrounding the forest reserve is more thickly settled. A trail will no doubt be put through from township 67, range 17 to connect with this trail as it would greatly shorten the route to the railway for the settlers in this township.

*Along Alberta and Great Waterways Railway.*—No trails are in existence from Caslan to Noral or from Noral to Hylo. It is improbable that much development work will be done in this vicinity for some time as the district is not suitable for settlement and is mostly included in the proposed Buck Lake forest reserve.

Around the railway stops of Hylo and Venice much has to be done in the way of road work. A very fair trail has recently been constructed southeast from Hylo for about two miles and another connecting Hylo and Venice. No satisfactory route has, as yet, been put through from Venice to Lac-la-Biche Station, although the latter may be reached either by taking the new Berny trail around the west and north sides of Missawawi lake or by a route starting in almost a directly opposite direction, namely southeasterly to the Beaver river, which is crossed in section 15 of township 65, range 14, and then north



on the Saddle Lake or Edmonton trail. As will be seen by a glance at the map, it is necessary to travel at least twenty miles by road to get a distance of about ten miles by the railroad grade.

*Saddle Lake or Edmonton Trail.*—The Saddle Lake or Edmonton trail runs in a southerly direction from Lac-la-Biche Station and is, in most seasons of the year, fit for motor traffic. It crosses the Beaver river in section 13 of township 66, range 14, gradually angles across range 13, and finally recrosses the Beaver river just above the forks of this stream and the Amisk river. It then follows the Amisk river upstream for about a mile, crosses this stream and continues in a southerly direction to Whitefish lake in township 62, range 13.

The bridges over the Beaver and Amisk rivers are of substantial construction, and are kept in good repair. Culverts have been constructed along this trail and a little grading and ditching has been done.

*Grandin and Normandeau.*—The post office of Grandin is on this trail in section 23 of township 64, range 13, and the settlement around Normandeau is reached by a trail branching off the main trail near the northeast corner of section 10 in township 65, range 13. Several miles of this trail are graded and it is, in general, in good condition and fit for motor traffic.

*Vicinity of Fork Lake.*—The settlement around Fork lake, in township 63, range 11, is reached either by the trail through Normandeau, which runs from Normandeau in a southeasterly direction, or by a branch trail to the east a short distance south of the post office of Grandin. A good trail runs from Fork lake to St. Paul des Metis, crossing the Beaver river at the east outline of township 62.

Settlers in the eastern part of township 65, range 12, and in township 65, range 11, go to Lac-la-Biche Station in the summer season by way of the post office at Normandeau but this is a very roundabout route. The more direct one around the south end of Elinor lake and Beaver lake is practically impassable with loads. In the winter season, these two lakes make a fairly direct sleigh route to market.

*Heart Lake Trail.*—The Heart Lake trail skirts the east end of lac la Biche for a few miles out of Lac-la-Biche Station and then cuts across country to the southeast end of the lake. It then runs in a general northeasterly direction towards Heart lake, which is in townships 69 and 70 in range 10. Beyond the southeast end of lac la Biche this trail is little travelled and is in very poor condition. A fairly good road branches to the north near Jellicoe on the Alberta and Great Waterways railway leading to the settlement in townships 67 and 68 in range 13. This trail is kept in fair condition and runs as far as the mouth of Owl river.

Near Jellicoe a trail branches to the east from the Heart Lake trail. It runs in an easterly direction through ranges 12, 11 and 10 to Touchwood lake where it turns north. It can only be travelled with a wagon through range 12 and pack-horses would have to be used from there on.



1. Main Street, Lac-la-Biche Station.
2. Wandering River.
3. Roman Catholic Church near Grandin.
4. Semi-open Country. Wandering River.

5. Bridge over Beaver River.
6. Along the Edmonton Trail.
7. Rolling Country, Township 66-12-4.

## SOIL

The classifying and mapping of the soil in the western provinces is receiving greater attention as its importance in the problem of directing settlement is being more and more appreciated. Attached to this report is a soil map showing the results of a reconnaissance soil survey of the Lac la Biche district; on it are indicated the different classes of soil as they occur. A study of this map will assist the prospective settler in making his choice of location.

Soil fertility depends upon the physical characteristics of the soil and its chemical composition. The physical characteristics of the soil depend on texture, that is, the size of the soil grains. Texture is determined in the field by rubbing the soil in the hands; in time, one becomes expert in placing the soil in its proper class. Soil samples are also taken in the field and forwarded to the Soils Laboratory where the field judgment of the examiner is verified by separating the soil particles and thus obtaining the different percentages of each contained.

Five different groups were established; the following percentages govern into which group a soil is placed:—

*Sand*.—Soils containing less than 20 per cent of silt and clay.

~~*Sandy Loam*~~.—Soils containing between 20 per cent and 50 per cent of silt and clay.

*Loam*.—Soils containing over 50 per cent of silt and clay of which less than 20 per cent is clay.

*Clay Loam*.—Soils containing over 50 per cent of silt and clay of which between 20 per cent and 30 per cent is clay.

*Clay*.—Soils which contain over 50 per cent of silt and clay of which over 30 per cent is clay.

As this classification is based only on texture, soils of the same class may differ in colour, origin, in amount of organic matter, or in chemical constituents.

Sandy loam to a depth of from 6 to 15 inches is the predominating soil in the district surrounding lac la Biche. As a general rule, the higher areas are inclined to be sandy, the intermediate contain a good type of sandy loam, while in some of the lower areas, particularly in the vicinity of swamps or bodies of water, patches of loam and clay loam are found.

The top soil is covered with a layer of humus, that is, decayed vegetable matter which varies in the different districts from 1 to 6 inches, depending—as a rule on the extent a district has suffered from destructive forest fires. Considerable damage has been done to the soil throughout the district from this cause as, in many places, this humic material has been almost entirely destroyed.

The subsoil is clay and sandy clay and contains a considerable amount of silt. Pockets of sand are quite common. In general, the subsoil is fairly open and mellow, allows plant roots to penetrate quite freely, and assists in surface drainage. The "water table" appears to be quite close to the surface which accounts for the large number of lakes scattered throughout the district and the number of swamps in the lower areas.

Stones occur throughout the district and in some parts are a serious drawback to its agricultural development. They are particularly noticeable in a strip of land starting south at Plamondon in township 67, range 16, and running in a southeasterly direction, including the districts east of Berny, around Bouvier, north of Missawawi lake, and along the Beaver river. Stones are particularly in evidence in the higher areas. Around Venice and south of Missawawi lake, they appear to be mostly in the top one-foot of soil, and with deep ploughing can be turned up and then picked off, once and for all. This does not seem to be the case in other parts of the area, however, as they appear to keep working up to the surface year after year.

*Vicinity of Lac-la-Biche Station.*—Immediately around Lac-la-Biche Station, the soil is a light fine sandy loam varying from 8 to 12 inches in depth, light grey in colour, and is lacking in organic matter. Pockets of almost pure sand are found and aside from a heavy growth of poplar, vegetation is scant. Forest fires have removed most of the humus. Along with the fine sand is mixed considerable silt and a small percentage of clay giving a soil that, once the organic matter is cropped out of it, will be difficult to handle on account of puddling when wet and baking when dry. Upon the more exposed and higher areas, scattered boulders are found, but these are not sufficient in themselves to affect farming operations to any extent.

West of Lac-la-Biche Station along the south shore of lac la Biche is a strip of fairly heavy clay loam varying from a half to two miles in width. This soil is decidedly more fertile than the lighter soil to the south and has been cropped successfully for a number of years.

*North of Missawawi Lake.*—In range 15, north of Missawawi lake, a very fair class of sandy loam is the predominating soil. Some areas which contain a large percentage of sand and some small pockets of gravel are found in this vicinity. The higher area are stony, some sections being unfit for agriculture for this reason. The stones seem to work to the surface year after year and many complaints were made by the present settlers of the difficulties they are experiencing in clearing their lands. The soil is slightly acid and this fact is reflected in the low yields of grain received. Alkaline carbonates are lacking and the addition of lime would therefore be beneficial.

*Plamondon.*—Probably the most fertile and productive soil in the district is found to the west of lac la Biche in townships 67 and 68 in ranges 16 and 17. The village of Plamondon is the centre of this district. In range 17 a considerable variety of soil classes are found. Township 68 of this range contains large swamp areas with some adjoining patches of rich loam. There is a strip of clay loam around the north end of Charron lake. This township presents some difficulties in the matter of drainage as it is nearly level and the "water table" is quite near the surface. Probably this problem will solve itself when more land is cleared and evaporation is thereby increased.

Township 67, range 17, presents more variations in soil than any other in the district. It is quite rolling with the general slope of the drainage to the north. The higher portions in the southeastern corner of the township are practically pure sand, the intermediate altitudes and slopes are mostly a good fertile sandy loam, while in the lower parts surrounding the swamps and bodies

of water are areas of very fertile clay loam and loam. As drainage is quite feasible in some of these lower lands which are at present inclined to be soggy in wet seasons, some excellent farming results may be looked for in this vicinity.

In townships 67 and 68, range 16, sandy loam strongly predominates except in the northerly part of township 68 where an area of clay loam is found. It is at once noticeable that while the remainder of these two townships is high rolling country, this strip of clay loam is low lying, nearly level land, and is covered with a heavy growth of spruce and poplar. The sandy loam in these townships varies from 3 to 10 inches in depth, is brownish in colour, quite friable, and in good mechanical condition. The covering of humus varies from about 2 to even 10 or 12 inches in the lower areas and in the neighbourhood of swamps. The subsoil is clay containing some sand. It is fairly open and allows moisture and plant roots to penetrate readily.

Some stones are found and in places these would interfere with agricultural development. On account of these, the higher areas in the central part of township 68 and through the central and southern parts of township 67, are used more for grazing than for farming purposes.

The soil is slightly alkaline and this is probably the main reason for the heavier yields in this vicinity than in the district to the east where traces of acidity were found.

*Buck Lake.*—The southwesterly part of the district examined is a rolling to hilly strip of country lying in townships 65 and 66, range 17, and in the western portions of the same townships in range 16. The soil in this block is mostly sand with some areas of sandy loam which are close to the sand type. The surface soil was considered to extend to a depth of 7 inches. It is light reddish brown in colour. The subsoil is sand and can be distinguished from the surface soil by its more reddish appearance. This soil is loose and open; water rapidly passes through, and consequently it quickly dries out. The vegetation on the more sandy portions is very scant, being almost entirely lacking on the more exposed ridges. There are no traces of acidity in this soil. Scattered stones and boulders are found in this area. It lies mostly within the boundaries of the proposed Buck Lake forest reserve.

*Hylo, Noral and Venicé.*—East of this sandy area through the remainder of range 16 and through ranges 15 and 14 in townships 66 and 65, the soil is a light sandy loam, with smaller patches of sand. Surface stones are found throughout but when these are once removed no further trouble from this source is experienced. The surface soil varies from 8 to 14 inches in depth, has a greyish colour, is quite open and could be easily worked. It has a covering of humus varying from 2 to 6 inches in depth, being deeper on the heavy bush land than in the semi-open areas where fire has destroyed a good portion of it. The subsoil is clay or sandy clay and contains enough sand to make it fairly open and mellow. Moisture and plant roots penetrate this soil quite readily.

*Grandin.*—South of Lac-la-Biche Station in township 66, range 13, the soil is a light sandy loam. The covering of humus is shallow and many rocks and boulders are found. Forest fires have damaged this soil. Townships 65, 64 and the northerly part of township 63 in range 13, contain a few small areas of

loam and clay loam. The remainder is a very fair type of sandy loam, dark grey to brownish grey in colour, covered with a layer of humus varying from 2 inches in depth on the higher lands to 4 or 5 inches on the lower. Grandin is the centre of this district. Stones are numerous on the hilltops but are not considered a serious drawback to agricultural development. The subsoil is clay but contains varying amounts of sand. The higher areas do not hold moisture to as great an extent as might be desired if they are to be cultivated and in seasons of drought crops would suffer for this reason. As the soil on the slopes and lower areas is heavier, crops would be able to withstand a longer period of drought.

*Beaver River and District Surrounding Normandeau.*—Along the Beaver river through township 63 in ranges 11 and 12 and in 64 in range 12 (surrounding Normandeau), the soil is a fair type of sandy loam, varying from light to dark grey in colour and is covered with about 3 inches of humus. The highest areas are liable to suffer in case of prolonged periods of drought. Some stones are found throughout but are more numerous near lake shores or on the steeper hill-sides.

*North of "Big Bay".*—Just north of the southeast end of lac la Biche, locally known as "Big Bay", in townships 67 and 68, range 13, some fair patches of brownish sandy loam to a depth of about 10 inches were investigated. The subsoil in these areas was finer in texture than the surface soil and contained a high percentage of clay and silt. It is quite open and is in some cases mottled in colour while in others it would be termed a greyish sandy clay.

North of lac la Biche in township 68, range 14, the soil is a very light brownish grey sandy loam or sand with a thin covering of humus. This soil has been damaged by repeated fires.

In general, the soil throughout the district is inclined to be lacking in organic matter and unless some means is taken to replenish it, either by growing forage crops, by manuring, or by some other such means, the soil will soon be "cropped out".

In districts where traces of acidity are found, lime in some form should be added to the soil if yields of grain are to be improved. In order to maintain fair yields after the first two or three crops have been taken off, the land will have to be regularly summer-fallowed. Only mixed farming should be attempted in this district.

## AGRICULTURAL AND MUNICIPAL DEVELOPMENT

Agriculture is but in its infancy in the district surrounding lac la Biche. Until the Alberta and Great Waterways railway was built, only a few hardy pioneers and some half-breeds living around the missions made any attempt at crop growing.

In the northern bush areas, a homesteader must pass through various distinct stages in developing his land to the state where he may expect it to repay him in the way of cash returns for his time and labour. As a rule, he first builds a small log house and stable as shelter for himself and his stock and then

clears enough land for a garden. Next he must clear and break some land for green feed for his stock and then he prepares land for the growing of what might be termed his "cash crops". He is then probably in a position to build more commodious buildings and to make other necessary improvements.

*Plamondon.*—In the district to the west of Lac la Biche, around the village of Plamondon, the older settlers have cleared from 40 to 100 acres of their quarter-sections. These men, who are of Michigan-French origin, settled where small openings could be found and have each year increased their clearings until at present many of them have very fine farms with large fields under cultivation, capable of growing all of the ordinary farm crops and vegetables.

In this district a fine community spirit exists. If one man wants to build a new house or barn, he calls on his neighbours to assist him, and so, with practically no cash outlay he is enabled to put it up quickly. In return he responds when called upon for a similar purpose by his neighbour.

Most of these settlers have good two-story log or frame houses, large barns and outbuildings. Many of them when erecting frame buildings, get a timber permit and cut their own logs. They then haul them to the nearest sawmill and have them cut into the lumber required. They are mostly well supplied with implements. Grain has been threshed in this district for a number of years.

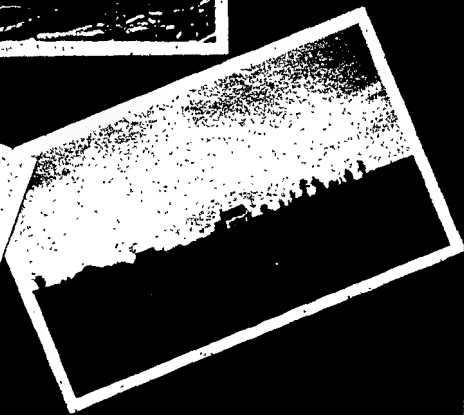
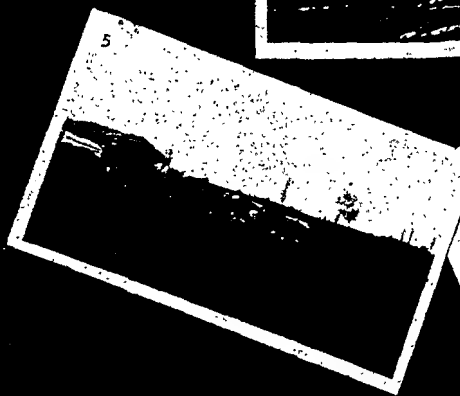
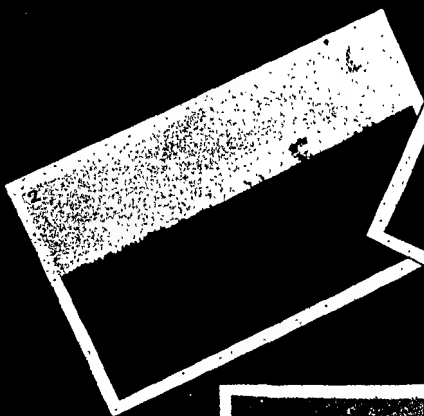
Wheat is the main cash crop. It has been successfully grown and ripened for the past ten years, with one exception when all the crops in the North were frozen. From twenty to thirty-five bushels to the acre are obtained, although it has been found necessary to summer-fallow this soil if continued success is to be expected. Yields of oats up to a hundred bushels to the acre are reported, the varying yields probably depending on the season and the amount of cultivation given the land. Potatoes, butter and eggs might be termed the other cash products of this district. Every farmer has a large garden on which he depends to a large extent for his food. Potatoes are very successfully grown; two hundred bushels to the acre is an average crop.

As there is a considerable transient population in Lac-la-Biche Station, there is a good market for garden produce, butter, eggs and meat. As a matter of fact, large quantities are shipped in every summer from Edmonton which might be better supplied by the settlers of the district.

No attempt has been made as yet to grow clover but considerable success has been experienced in growing timothy. As hay is scarce anywhere west of Lac-la-Biche Station this proves to be a good cash crop. Nearly all the settlers have a few head of cattle of a fair type, some hogs, a few sheep, barnyard fowl and fairly good work horses.

There is a school, a Roman Catholic church, a small hotel, two general stores, a post office, telegraph office, a blacksmith shop, an implement shop, a bank and a pool room at the village of Plamondon. It is located in sections 2 and 3 of township 68, range 16.

*West of Plamondon.*—In the settlement west of Plamondon, in range 17, most of the settlers have come in recently. A few of them who have been on their quarter-sections for five or six years, have cleared forty or fifty acres and



1. Fording La Biche River.  
2 and 3. Views along Wandering River Valley.  
4. Recent Windfall.

5. Cattle on Wandering River Prairie.  
6. Settler's Home and Garden near Plamondon.



have been getting very good results in raising wheat, oats, some barley, and all the common varieties of garden vegetables. Yields of from twenty to thirty-five bushels of wheat and up to a hundred bushels of oats are obtained on land that is being well cultivated and intelligently farmed. Potatoes and various other garden vegetables are grown mostly as "subsistence crops," although some potatoes are put on the market.

Along the Athabaska trail in this range rapid strides are being made in development work. As much as thirty acres on single quarter-sections have been cleared by one family who have only been in this district one year. Stock raising is also an important branch of the farming operations carried on in this vicinity. An attempt is being made to improve the class of stock by importing pure bred sires.

The telephone line from Athabaska was recently extended along the Athabaska trail into range 17. Further development is taking place in this vicinity.

*Berny.*—Around Berny there is a small settlement where agriculture is not as far advanced as in the vicinity of Plamondon. Oats is the principal grain crop although a little wheat growing is attempted. The greater part of the produce, however, is used in feeding live stock and finally reaches a market in the form of dairy produce and live stock. Stones in this district interfere considerably with agriculture. Dairying is the most important branch of the farming operations carried on, some of the settlers shipping their cream from Lac-la-Biche Station to the creameries in Edmonton.

*Bouvier.*—In the vicinity of Bouvier and around the northern part of Missawawi lake both oats and barley have been raised for a number of years with fair success. A little wheat has also been grown. Up to 60 bushels of oats to the acre has been obtained. From fifteen to twenty bushels of wheat is about all that may be expected. Most of the crops raised in the vicinity are used for feeding purposes and cash returns are obtained by the sale of stock. Potatoes and other garden produce are successfully raised, but little of this is marketed. The post office of Bouvier is situated in section 10 of township 67, range 15. There is also a school at this point.

*Lac la Biche Mission.*—On the south shore of lac la Biche in township 67, range 14, a Roman Catholic Mission was established many years ago. Before the railway was built, the old post office of Lac la Biche was at this place. A post office is still maintained here and is still known by that name while the one at the present village of Lac la Biche on the railway is differentiated from it by being called Lac-la-Biche Station. A school has been conducted in connection with the Mission for many years. Many of the children of the district live at the Mission while attending.

*Venice and Hyllo.*—The agricultural development around Venice and Hyllo has been rather slow. Many of the settlers came directly from Italy and expected that their wives and families would be able to follow them. Some became lonely and dissatisfied when the war prevented them from doing this and gave up their holdings. However, those that stayed have built commodious houses and are getting fair sized fields under cultivations. Dairying is an

important branch of agriculture in this district. Many of the settlers manufacture an Italian cheese and ship considerable quantities of it to Edmonton. Wheat and oats are being successfully raised and on account of the proximity of the railway should prove to be important cash crops as the district develops.

There is a general store and post office at Venice and a sawmill and post office at Hylö.

*"Big Bay"*.—Around the southeast end of lac la Biche previously referred to as being locally known as "Big Bay", and along the north shore in township 68, range 13<sup>d</sup>, agricultural development has been very slow. A few old-timers have been satisfied to grow a little oats for green feed, put in small gardens, run a few head of cattle and fish for a living. During the last few years, quite a number of new settlers have come into this district and are busy clearing their land and are cropping larger areas each year. Oats is still the only grain crop attempted as whatever grain that is grown must be used as green feed, as there is no threshing machinery in this district. A number of heavy stands of oats were seen in this locality and it is probable that other crops such as wheat and especially barley could be raised successfully. No large gardens were seen although it has been demonstrated that potatoes and all the common varieties of garden vegetables can be raised successfully. The settlers obtain their cash returns from the sale of live stock, butter and eggs.

*Lac-la-Biche Station*.—Immediately surrounding Lac-la-Biche Station the forest cover is too heavy for extensive farming operations to be carried on.

Settlers are scattered along the Saddle Lake or Edmonton trail to the south of Lac-la-Biche Station who rely mostly on small mixed farming operations with live stock and hay as their chief sources of cash returns.

Settlement south of Lac-la-Biche Station is mostly grouped around Grandin, Normandeau and Fork lake.

Although oats and wheat are being successfully raised around Grandin, the settlers here rely mostly on their stock and dairy products for their cash returns. During the last few years, however, many of the settlers have been increasing their acreage under crop and grain growing is becoming a more important factor yearly. Yields of wheat up to 35 bushels to the acre and oats up to 80 bushels to the acre have been reported in this locality.

The post office at Grandin was established a number of years ago with a once-a-week mail service from Ashmont, on the Canadian National railways. Lac-la-Biche Station, however, is much closer than Ashmont and is used as a marketing place for this district. There is a Roman Catholic Mission in section 12 of township 64, range 13, at which services are held at regular intervals.

*Normandeau*.—In the district surrounding Normandeau, most of the settlers have good commodious houses and out-buildings and own a good type of stock. Cattle, hogs and a few sheep are raised. Yields of wheat up to 35 bushels to the acre have been obtained, while from 50 to 80 bushels of oats is not uncommon. Many of the settlers in this vicinity have from 20 to 30 acres under cultivation. It has been found that summer-fallowing is necessary if continued success is to be expected. Potatoes and all the common varieties of

garden vegetables are grown with marked success. Some garden and dairy produce is raised for marketing purposes.

There are two general stores, a post office, a portable sawmill and a Roman Catholic Mission at Normandeau. There is also a school in section 7 of township 65, range 12, which serves for the district.

*Fork Lake.*—Fork lake is nearly midway between Lac-la-Biche Station and St. Paul des Metis. As a result produce is marketed in either place. Wheat and oats are being raised successfully in this locality although stock is probably relied on for cash returns more than grain crops.

## HAY

In any country where forest cover is the predominant feature of vegetation, hay lands are usually scarce and therefore are considered particularly valuable. Under such conditions they are often reserved by the Timber and Grazing Branch and either leased by the year to the highest bidder or else divided (under lease) among the different settlers applying for them.

*Plamondon.*—As the land around Lac la Biche is, in general, mostly timbered, the settlers are yearly confronted with the problem of obtaining hay. Very few of them can depend on getting a sufficient quantity from their own quarter-sections. Only a small quantity of upland hay can be cut and where a settler has enough land cleared to allow him to raise forage crops, this practice is growing in favour. A number of very fair crops of timothy were seen in the vicinity of Plamondon. A certain amount of hay is cut on small meadows—mostly formed by old beaver dams—but most of the native hay around Plamondon is obtained either along the La Biche river or around the shores of lakes in the vicinity. Whether this hay can be cut or not depends upon the seasonal precipitation. Hay meadows shown on maps compiled from this survey are based on what could be cut in a normal year. After a wet season, much of this hay cannot be cut and consequently many of the settlers are naturally cautious about acquiring much stock until they are in a position to raise their own fodder crops.

The settlers around Charron are able to cut but little hay from the small depressions and hay meadows on their own holdings and so they are forced to depend for an additional supply upon the meadows along the La Biche river or around Charron lake. In dry seasons a considerable quantity of hay can be put up along the southwestern end of this lake but during the last few seasons its outlet has apparently been filling up and the water level has been raised, flooding a considerable amount of the hay lands. A somewhat similar condition exists in a lake in the southwestern part of township 67, range 17, where hay land is at present flooded. As a result of these conditions, competition is naturally keen among the settlers for the hay rights in this district.

*Buck Lake Forest Reserve.*—Around Plamondon, as has been already stated, some forage crops are being raised to relieve the shortage of native hay. A few meadows yield a small amount yearly and a little upland hay can be cut in the southwestern part of township 67, range 16. The settlers sometimes even

go to the lakes in township 66 and the meadows in township 65 of range 17 in the Buck Lake forest reserve for their hay. In a normal year some 75 tons can be cut around a lake in section 21 of township 66, range 17, while along the east boundary of this township are many small meadows. In the northeasterly portion of township 65, range 17, there are a number of meadows surrounding small lakes where perhaps 50 tons may be cut.

*Berny.*—There are likewise but few hay lands around Berny. The settlers obtain their hay from small meadows along the creeks running into Kinosiuk lake or from the scattered meadows along the west boundary of township 66, range 16.

*Bouvier.*—Around Bouvier the forest cover is much lighter and quite a number of beaver meadows ranging in size from 1 to 30 acres are scattered along the creeks. Such meadows are found in the northeast quarter of section 21, the northwest of 13, the northwest of 12, the northeast of 34, the east half of 29 and in the west half of 16, of township 67, range 15. From one to two tons to the acre are obtained from these meadows. There is more upland hay available in this township than in any of the surrounding townships.

*Venice.*—Around the Italian settlement at Venice small quantities of hay can be obtained here and there from small meadows and openings. To the southeast, however, in township 65, range 14 a considerable quantity of good hay can be cut along the Beaver river or from meadows in sections 8, 9, 13, and 15. About seventy tons can be cut in the meadow in sections 8 and 9.

*Southeast of Lac la Biche.*—The district southeast of lac la Biche is much better supplied with hay than is the district already discussed. While there is practically none in the immediate vicinity of Lac-la-Biche Station, considerable hay is cut on the Beaver Lake Indian reserve, and offered for sale by the Indians. A considerable quantity is also cut by the settlers along the Saddle Lake trail through the southerly part of township 66 and through township 65. Around Uppie lake the hay has been reserved for leasing purposes and in a normal season 200 tons could be harvested. In this vicinity quantities of upland hay may be cut, particularly in wet seasons when the hay around the lake shores is flooded. Forty or fifty loads of hay can be cut around a lake in section 10 in township 64, range 13.

In the district surrounding Normandeau and Fork lake, hay lands in the immediate vicinity are at a premium. Small patches of upland hay are found scattered here and there and most of the settlers get a scanty supply by cutting these. If enough cannot be obtained in this manner, there are some good areas of upland hay in sections 27, 28, 29, 34, and 35 in township 64, range 11. Township 65, range 11, also offers some good upland hay in sections 8, 9, 10, 15, 18 and 21. These districts are quite accessible and are at present vacant Dominion lands.

*East of Lac la Biche.*—Sections 24, 35 and 36 of township 65, range 12 and section 10 of township 66, range 12, contain a number of hay meadows and a quantity of upland hay. These areas are not very accessible, however,

but would be of value to a stock man considering township 66, range 12, and other grazing areas in this district as a stock ranging proposition.

The settlements around "Big Bay" and in township 68, range 13, are fairly well supplied with upland hay. Some very good meadows are found along the Owl river in township 68, range 13. A meadow in sections 9 and 10 of township 68, range 11, would produce 150 tons of hay even in a wet season when much of it would be flooded that would otherwise be available. If the portion of this meadow lying in section 9 were drained twice or possibly three times this amount could be cut.

### CLIMATE

In considering the desirability of a district for settlement, climate is one of the most important considerations. The length of the growing season and the amount and distribution of rainfall largely determine the class of crops which can be grown and the type of farming which should be followed.

As the nearest meteorological station is at Athabaska, which is about 50 miles due west of Lac-la-Biche Station, a discussion of temperature and precipitation for the Lac la Biche district must be based on the records taken at this station. Maps published by the Meteorological Service, however, show that the mean maximum temperature at Lac-la-Biche Station is estimated at about 2 degrees lower than at Athabaska from September to May and the mean minimum temperature about 2 degrees lower during the winter months. During the remainder of the year there is little or no difference.

In northern Alberta there is always a danger of summer frosts. Light frosts are apt to occur at Athabaska during every month of the year except July, and frosts have even been recorded in some years in July, and while this makes the growing of wheat a precarious task, the hardier crops are seldom damaged.

The following table is one compiled by the Meteorological Service and shows the late and early frosts at Athabaska:—

#### ATHABASKA

Year	Late Frosts			Early Frosts		
	Month	Date	Temp.	Month	Date	Temp.
1902	June	30	30.3			
1904	July	3	33.0	August	5	33.0
1905	June	23	33.5	August	23	33.0
1910	June	14	33.0	August	11	32.0
1911	June	7	29.0	August	7	33.0
1912	June	6	25.0	July	14	29.0
1913	June	26	33.0	August	30	33.0
1914	June	9	33.0	August	25	32.0
1915	July	1	30.0	September	7	32.0
1917	June	13	27.0	August	8	33.0

During the season of 1921 the last killing spring frost was on May 27, while the first killing fall frost was on August 29.

It is estimated that the mean maximum and mean minimum temperatures at Edmonton are the same as at Lac-la-Biche Station during June and July, about 2 degrees higher (at Edmonton) during August and about 4 degrees higher

during September. The difference increases until in the month of January it is estimated that the mean maximum is 10 degrees higher and the mean minimum 12 degrees higher.

The following information is compiled from records covering a period of from 20 to 30 years:—

## LAC LA BICHE (Elevation 1,760 feet)

Month	Mean Max.	Mean Min.
January.....	3	-18
February.....	14	- 8
March.....	30	4
April.....	50	24
May.....	62	36
June.....	70	42
July.....	74	48
August.....	70	44
September.....	62	33
October.....	50	24
November.....	28	7
December.....	20	- 5

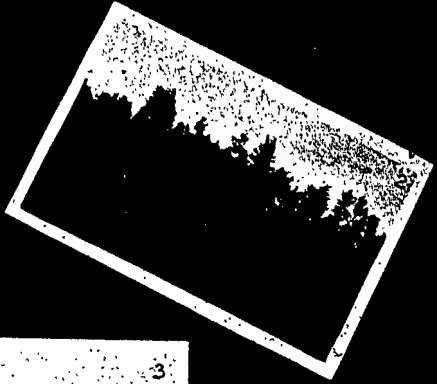
*Precipitation.*—The average annual precipitation at Athabaska, calculated from records covering a period of 21 years, is 15.96 inches. This is slightly less than for Edmonton and about the same as for Peace River and the upper Peace River district. On account of the northern latitude of lac la Biche, evaporation is much less than in the more southern latitudes. This probably makes the precipitation as effective as for the southern latitudes where it is heavier.

The seasonal distribution of rainfall is of as much importance as the total. Over 64 per cent of the total precipitation in this district comes in May, June, July and August and 40 per cent in June and July alone. June has the heaviest rainfall averaging 3.40 inches. During the winter, precipitation is light, averaging 1.67 inches; during the spring 3.29 inches; during the summer 8.35 inches; and during the fall 2.65 inches. Most of the rainfall occurs during the growing season and is therefore received at the most effective time. As the soil is fairly light, however, even short periods of drought may cause the crops to suffer considerably.

The winters are long and severe, the temperature being as low as 50 or 60 degrees below zero at times. The summers, however, are very pleasant and many come to lac la Biche during these months to spend their holidays. In this latitude the days during June and July are very long and the nights cool. It is the long hours of sunshine during these months that allow crops to ripen and mature in the short growing season.

The district is not subject to hailstorms but occasional destructive windstorms occur. In July, 1921, a wind and hail storm swept over the western part of the district doing considerable damage. The crops through a narrow strip were damaged about 25 per cent by hail. This type of storm is unusual, however.

Excellent water can be obtained in any part of the district by digging shallow wells. There is also a good supply of surface water that is accessible for stock.



1. Open Country near Wandering River.
2. Upland Hay.
3. Unsurveyed Prairie near Wandering River.
4. Along the Edmonton Trail.

5. Hay Lands around Lake, West of Lac La Biche.
6. Peavine and Vetch, Wandering River.
7. La Biche Inn.

## GAME AND FISH

*Game Birds.*—Partridge and prairie chicken were very plentiful through northern Alberta during the season of 1921 and in this regard the district surrounding lac la Biche was no exception. Partridge were particularly plentiful, probably owing to the fact that the nesting season was quite favourable and that there were no destructive spring forest fires in this district. As prairie chicken have been protected for a number of years in Alberta, they are now very plentiful. The season for partridge and prairie chicken commenced on the 15th of October and remained open for two weeks only. Hungarian partridge which are quite plentiful in southern Alberta are reported to be working their way north but none were seen in this district.

The district surrounding lac la Biche is particularly adapted to water fowl on account of the many lakes and feeding grounds scattered throughout. The islands in lac la Biche have been reserved as bird sanctuaries and recently the whole of lac la Biche was declared a bird sanctuary and shooting made illegal on its waters during the whole year. Many different varieties of ducks were found on all the lakes and sloughs in the district and when the duck season opens in the fall many hunters from the south visit this area.

*Big Game.*—As this district becomes more settled moose, caribou and deer which previously were plentiful are moving farther north. At the present time only an occasional moose is seen in the immediate vicinity but only a few miles to the north in the unsettled country, they are very plentiful. They sometimes come south to La Biche river and are seen in townships 67 and 68 in ranges 16 and 17.

Jumping deer are more plentiful in certain parts of the district. They are often seen in the Buck Lake forest reserve. On the south side of Beaver river through township 63, in ranges 11 and 12, they are quite plentiful and were seen on numerous occasions when this area was being examined. East and north-east of lac la Biche they are fairly plentiful but particularly so in township 68, range 12.

Very rarely a caribou is seen in the district. Black bear are found in the country to the north of lac la Biche but seldom come into the settled parts.

*Fur-Bearing Animals.*—While some years ago considerable trapping was done in this district, of late the fur-bearing animals seem to have moved farther north. Muskrats are found on some of the sloughs but are not in sufficient numbers to interest the professional trapper. There are a few coyotes in the district and during some seasons stray wolves may make their way into the settlement. A few red and cross foxes are caught each winter. A fox farm is located on the east shore of lac la Biche, but it is not as yet beyond the experimental stages.

*Fish.*—In nearly all of the lakes, pickerel and jackfish are very plentiful. They vary in size from one pound to ten or twelve pounds and make as a rule very good food. In some of the largest lakes and particularly in lac la Biche, large numbers of whitefish are found. Commercial fishing is carried on around lac la Biche, the fish being shipped to Edmonton in carload lots. Dogs are



used as a means of transportation in the winter in the North country and a great amount of fish is put up for them each fall as winter food.

### FOREST RESERVES AND TIMBER

*Proposed Buck Lake Forest Reserve.*—Townships 66 and 65, range 17 and township 65, range 16, comprise the major part of the proposed Buck Lake forest reserve.

Township 66 and the northern portion of township 65, range 17, is rough hilly country sparsely covered with small poplar and jack pine. The soil is mostly sand with a thin covering of humus and is not suitable for agricultural purposes. The remainder of township 65, range 17, and township 65, range 16, is gently rolling country with some open patches and areas of large poplar and a little spruce. The soil is a very light sandy loam and is not considered suitable for agriculture. Some of the open areas in these townships are suitable for grazing.

*Proposed Lac-la-Biche Forest Reserve.*—Township 68, range 12, contains large swamp areas covered with small spruce and tamarack from 1 to 4 inches in diameter. The remainder of this township consists of small poplar and jackpine ridges, areas of brulé and firekilled spruce and poplar, some scattered spruce and a small area of light poplar and birch.

Townships 67 and 68, range 11 and township 67 range 12 are rolling to hilly country mostly covered with a fairly heavy stand of poplar with a good growth of healthy young spruce from 1 to 6 inches in diameter.

There are some open and semi-open areas within the reserve in township 67, range 12 where the surface is too rough and the soil is too light for agriculture. Some of this land has a good growth of grass and could be used for grazing purposes.

The soil in this reserve is a sandy loam and is, in general, inclined to be light. There are quite a number of stones and boulders and there is only a thin covering of humus over the surface soil.

*Timber.*—There are no large blocks of merchantable timber in the Lac la Biche district but there are numerous scattered spruce and a few blocks of timber which will provide sufficient lumber for the settlers for some time. The most noticeable of these are situated in section 30, township 65, range 15 and in sections 24, 25 and 36, township 68, range 11.

### WANDERING RIVER PRAIRIE

An area of unsurveyed open land, locally known as "Muskeg Prairie" or "Wandering River Prairie", lies in townships 70, 71 and 72 in ranges 16 and 17, along the Wandering river. It is mostly high, rolling, well drained country approximately 15 miles northwest from the west end of lac la Biche and about ten miles east of the Athabaska river.

The prairie is about one mile wide at the southerly end in township 70, range 17 and widens out to the north until it reaches a width of about five and a half miles in the northerly part of township 71 where it extends into range 16. From this point it again narrows down until at the north end of township 72 it is only about half a mile wide.

This land has been previously covered with large poplar and scattered spruce which was burned off about twelve years ago without damaging the soil to any extent. Some parts of this area are absolutely open lands with only a few dead sticks lying on the ground. Other parts have some burnt stumps still standing and a light growth of scrub willow and poplar. There are some areas with considerable dead fallen timber and some smaller patches of windfall. This prairie is bordered on the north, east and west by large swamps.

The soil is, in general, of very good quality. The higher areas are sandy loam while the slopes and depressions are mostly a very good quality of black loam. A good belt of clay loam is found in township 70, range 17. The subsoil is clay and contains enough sand to make it fairly open and mellow.

Township 72, range 17 contains very large swamp areas. A high open ridge runs in a north and south direction through the eastern portion of the township and extends into range 16. The soil on this ridge is sandy loam and contains a few stones and boulders. In the southwestern part of the township there is a low-lying level strip of land. The soil here is a good type of sandy loam covered with a fair depth of humus. As the water table appears to be quite close to the surface in this area, it is doubtful if good drainage could be effected.

A shallow lake about one and three-quarters miles wide and two and three-quarters miles long lies in the southeastern part of this township. The Wandering river flows into this lake in section 14 and out again in section 12. This lake is probably not over six feet deep and is partially covered with lily pads and weeds. The water during the summer season is almost tepid and while a few jackfish are found they are not of good quality for eating purposes.

North of where the Wandering river enters the lake in the southeasterly part of township 72, range 17, the country is low and swampy. The river here is between thirty and forty feet wide and between six and ten feet deep and has a sluggish current, abrupt banks and a muddy bottom. South of the lake the river is larger, being between sixty and a hundred feet wide and from two to four feet deep, having a stony bottom and flowing through a fertile valley about seventy-five feet in depth and from a quarter to three-quarters of a mile in width. The river is quite accessible to stock and can be forded with ease at almost any point.

Township 72, range 16 is also mostly covered with spruce and tamarack swamps. Besides the open ridge in the westerly part of the township, there is a very good area of open land in the south central portion. The soil is a good type of sandy loam, the fertility of which is evident as it supports a very heavy growth of peavine, wild vetches and grasses.

The soil in township 71, ranges 16 and 17, is, in general, a very good type of sandy loam with several large areas of black loam. The soil on nearly all the slopes and depressions is a fertile black loam with a good covering of humus. The vegetation is very heavy and consists mostly of grasses, peavine and vetches. There are no stones in this area. The prairie in these townships is high, rolling, well drained land and should be capable of growing excellent farm crops.

In the northerly part of township 70, range 17, is a very fertile strip of black loam south of which is an area of clay loam. The subsoil is fairly heavy clay. A very luxuriant growth of grasses, peavine and vetch is found in this area and farm crops should be successfully raised.

It is reported that the district is not subject to hail and that early frosts are no more liable to occur in this district than in the remainder of the district examined surrounding lac la Biche. It is evident that a sufficient amount of precipitation is obtained to ensure the growth of the ordinary farm crops.

This district is, in many ways, similar to that around Plamondon at the west end of lac la Biche. The soil is perhaps the best in the Lac la Biche district and the fact that this area is free from stones, renders it more than equal to the best farm in the vicinity, were it not for its location and distance from a market.

There is little merchantable timber in these townships but the few small clumps of spruce such as the area in section 36 of township 71, range 17, and that in section 30 of township 71, range 16, would supply the necessary timber for buildings. There is also some good spruce south of the prairie in townships 69 and 70 in range 17 which could be used by the settlers coming in to this area. There is also an abundance of poplar for the building of shelters for stock and for fuel.

Moose and deer are very plentiful and could be counted on for meat until settlement reached the stage where these animals would migrate farther north. Very few of the small fur-bearing animals were seen. There are some black bears in the vicinity.

North of the base-line (the north boundary of township 72) in ranges 16 and 17 the country is level to slightly rolling and is covered with a heavy growth of poplar to fourteen inches in diameter and scattered spruce to sixteen inches in diameter with some large spruce and tamarack swamps. Smaller areas have been burnt over and are now mostly covered with heavy windfall and second growth poplar. There are a few sandy jackpine ridges but the soil in general is a fair class of sandy loam.

Towards the upper end of the creek which flows in a southerly direction near the outline between ranges 16 and 17, in townships 73 and 74, are some hay meadows yielding a very good quality of hay. Near the northern boundary of township 74 in these ranges the country is a little more rolling than it is farther south and some large swamps are found between the ridges.

In township 74, range 15, there are some large swamps, a few areas of *brulé* and second growth poplar, and a large belt of heavy poplar and spruce. This belt of timber extends into range 14 where the country becomes more rolling. The hills contain some very good spruce timber.

There is a sleigh trail in the northeastern part of township 74, range 14 which was put through at the time preliminary location lines for the Alberta and Great Waterways railway were run through this district. After leaving the hills in this township it crosses large open swamps in township 73, range 14 between the two branches of the Wandering river. These swamps are covered with a rank growth of slough grasses.

Near the junction of the two branches of the Wandering river and just above the base-line in range 14, is a considerable quantity of good hay. Several hundred tons could be cut along the river in this vicinity but it would be difficult to get machinery in for the work. There are large swamp areas between this point and Wandering River prairie which could only be travelled by stock or with machinery during the winter months.



# MAP OF LAC LA BICHE DISTRICT PROVINCE OF ALBERTA

Scale: 4 miles to an inch.

## CLASSIFICATION OF LANDS BY QUARTER-SECTIONS FOR SETTLEMENT PURPOSES

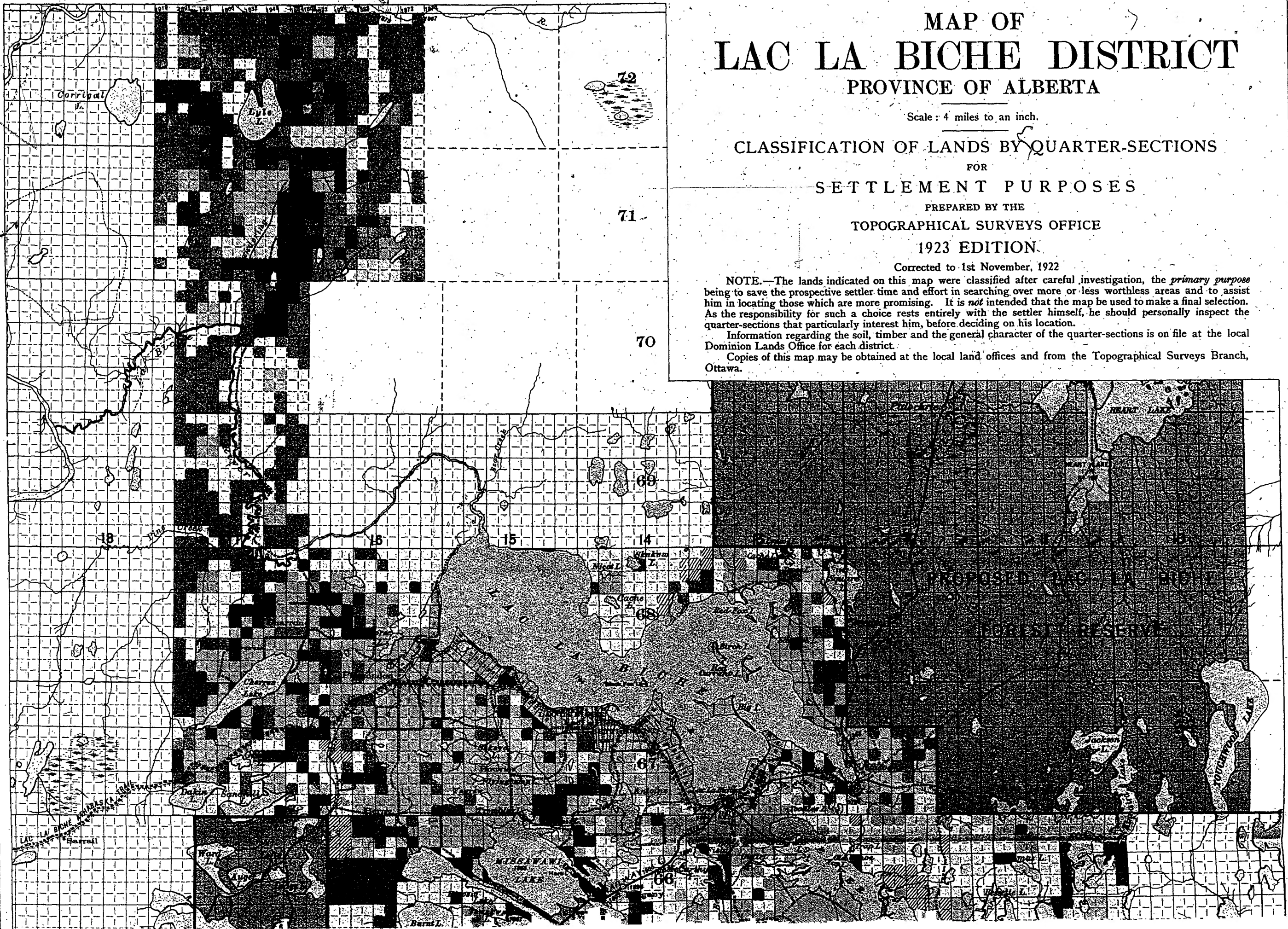
PREPARED BY THE  
TOPOGRAPHICAL SURVEYS OFFICE  
1923 EDITION.

Corrected to 1st November, 1922

NOTE.—The lands indicated on this map were classified after careful investigation, the *primary purpose* being to save the prospective settler time and effort in searching over more or less worthless areas and to assist him in locating those which are more promising. It is *not* intended that the map be used to make a final selection. As the responsibility for such a choice rests entirely with the settler himself, he should personally inspect the quarter-sections that particularly interest him, before deciding on his location.

Information regarding the soil, timber and the general character of the quarter-sections is on file at the local Dominion Lands Office for each district.

Copies of this map may be obtained at the local land offices and from the Topographical Surveys Branch, Ottawa.













# MAP OF THE MAIN SOIL TYPES OF LAC LA BICHE DISTRICT PROVINCE OF ALBERTA

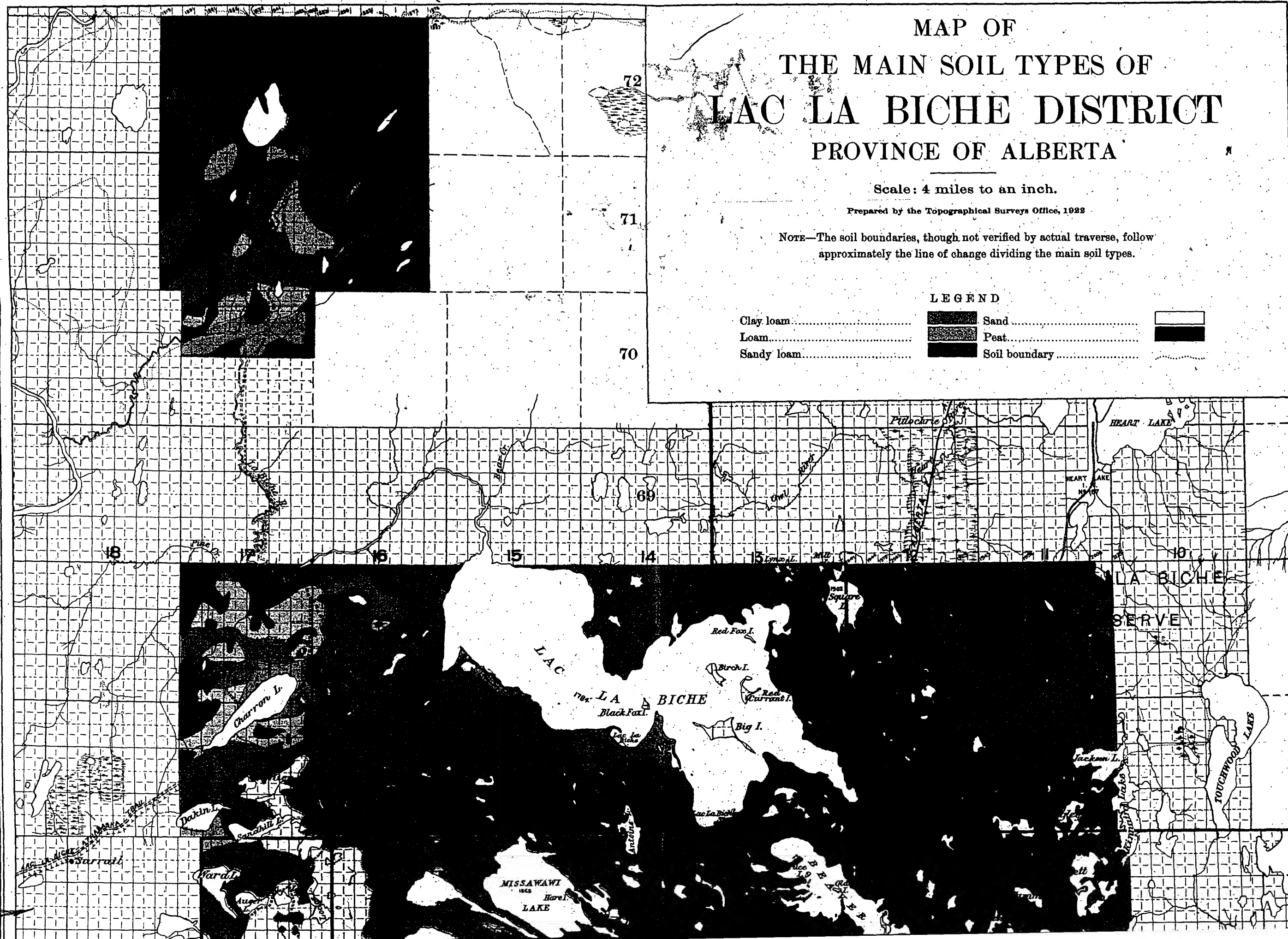
Scale: 4 miles to an inch.

Prepared by the Topographical Surveys Office, 1922

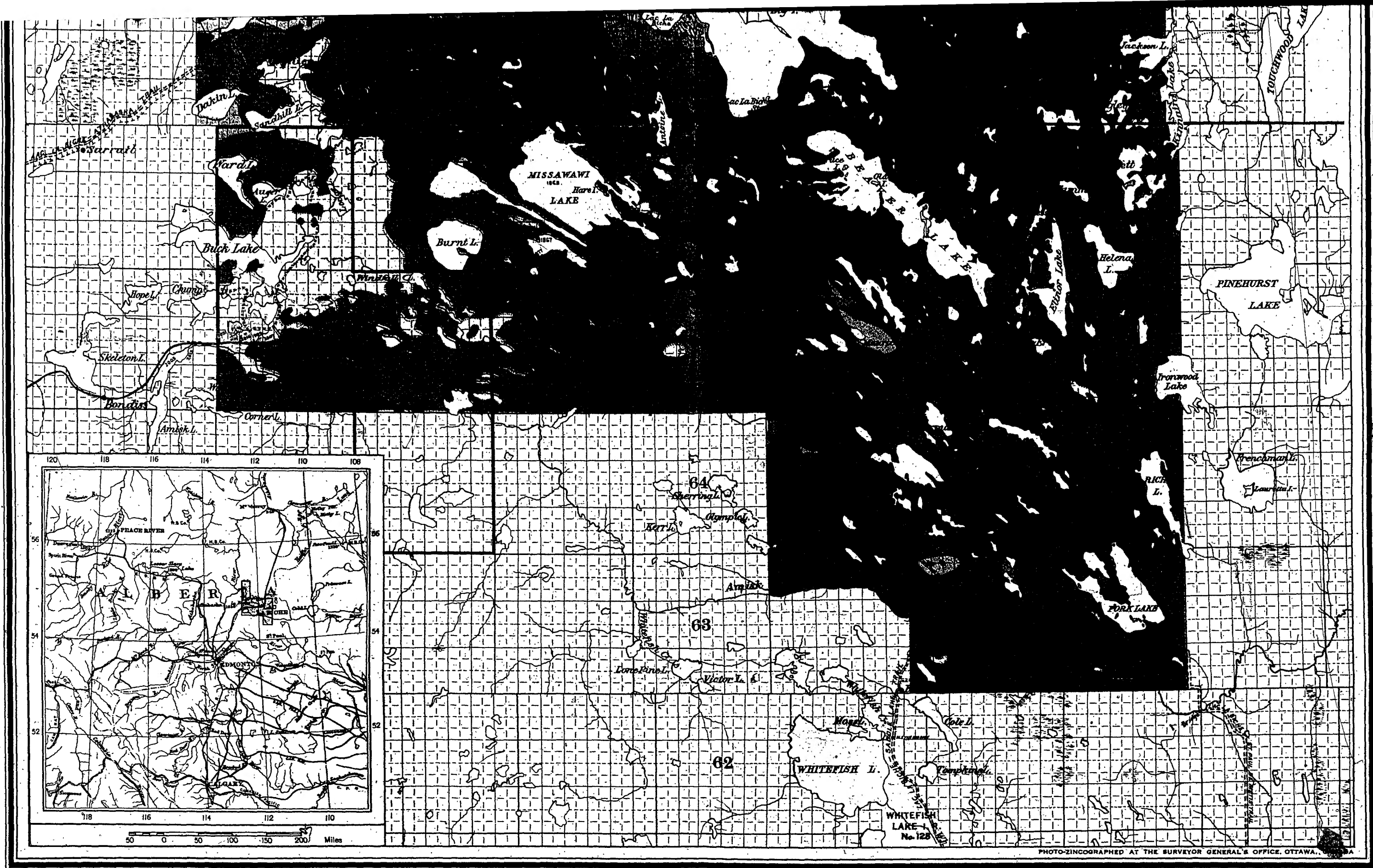
NOTE—The soil boundaries, though not verified by actual traverse, follow approximately the line of change dividing the main soil types.

## LEGEND

Clay loam.....		Sand.....	
Loam.....		Peat.....	
Sandy loam.....		Soil boundary.....	







2 of

### MECHANICAL COMPOSITION OF SOIL TYPES

- Clay loam*—Soils containing over 50% of silt and clay of which between 20% and 30% is clay.
- Loam*—Soils containing over 50% of silt and clay of which less than 20% is clay.
- Sandy loam*—Soils containing between 20% and 50% of silt and clay.
- Sand*—Soils containing less than 20% of silt and clay.
- Peat*—Vegetable matter, more or less decayed, which has accumulated in swampy areas.

### CONVENTIONAL SIGNS

- |   |       |                                      |       |
|---|-------|--------------------------------------|-------|
| Main through roads                      | ===== | Town or Village, population over 300 | ●     |
| Roads fit for wheel traffic             | ----- | Post Office                          | ○     |
| Pack trails                             | ..... | Railway Station                      | —○—   |
| River 3 chains wide or over             | ~~~~~ | Post Office and Railway Station      | —●—   |
| River under 3 chains wide, Brook, Creek | ~~~~~ | Section lines not yet surveyed       | ----- |
| Telegraph line                          | TTTTT | Elevations                           | 1640' |
| Telegraph office                        | ⊙     |                                      |       |